



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,674	09/19/2005	Takuei Ishikawa	01272.020667	8441

5514 7590 09/29/2006

FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER

NGUYEN, LAM S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 09/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/549,674		ISHIKAWA ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	LAM S. NGUYEN		2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18 is/are allowed.
- 6) ☒ Claim(s) 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/19/05</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election with traverse in the reply filed on 08/25/2006 is acknowledged. The traversal has been found persuasive. As a result, the restriction requirement has been withdrawn.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oikawa (US 6126282) in view of Smith et al. (US 6655797).

Oikawa discloses a printing head comprising an ink ejection orifice row arranging a plurality of ink ejection orifices for ejecting ink having a predetermined permeability in a predetermined direction (*FIG. 7A, element Bk (19b) and column 3, lines 2-5*) and a reacting liquid ejection row arranging a plurality of reacting liquid ejection orifices for ejecting a reacting liquid that has lower permeability (*FIG. 7A, element S (19a) and column 3, lines 8-12*) than the predetermined permeability of the ink and reacts with the ink, wherein said ink ejection orifice row and said reacting liquid ejection row are arranged to be adjacent to each other (*FIG. 7A*).

Oikawa however does not teach wherein the number of orifices in said reacting liquid ejection row is less than the number of orifices in said ink ejection row.

Smith et al. discloses a printing apparatus including an ink jet printhead assembly having an ink jet orifice row for ejecting ink (*FIG. 5c, elements 512b-512e*) and a reacting liquid

Art Unit: 2853

ejection orifice row for ejecting a reacting liquid (*FIG. 5c, elements 512a or 512f*), wherein the number of nozzles of the reacting liquid printhead (*512a or 512f*) is less than that of the ink printheads (*512b-512e*) due to the height of the reacting liquid printhead is half or the ink printheads (*claim 13*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time invention was made to modify Oikawa's reacting liquid printhead in such manner suggested by Smith et al.

The motivation for doing so would have been to optimally use the reacting liquid printhead by activating all its ink ejection elements (orifices) in a single printing scan as taught by Smith et al. (*column 6, lines 1-7*).

#### ***Allowable Subject Matter***

2. Claims 1-18 are allowed:

**Regarding to claims 1-2, 12-13, 16:** The primary reasons for the indication of the allowability of the claims is the inclusions therein, in combination as currently claimed, of the limitation that at least for the liquid having relatively high permeability, ejection of said liquid onto a first scanning area, which corresponds to a width of the predetermined amount within the scanning area of said liquid is performed during two times of scan, and ejection of said liquid onto a second scanning area other than said first scanning area, within the scanning area of said liquid is performed during a single scan is neither disclosed nor taught by the cited prior art of record, alone or in combination.

**Regarding to claims 3, 5-6, 14, 17:** The primary reasons for the indication of the allowability of the claims is the inclusions therein, in combination as currently claimed, of the

Art Unit: 2853

limitation that within the scanning area of the ink ejection orifices, ejection of the ink onto the respective scanning areas, each of which has a width corresponding to (a) ejection orifices and which are located at respective end portions of the row of ink ejection orifices scan and ejection of the ink has a width corresponding to (n-a) not located at the end portion, is scan onto a scanning area which ejection orifices and is performed during a single scan is performed during two times of within the is neither disclosed nor taught by the cited prior art of record, alone or in combination.

**Regarding to claims 4, 7, 15, 18:** The primary reasons for the indication of the allowability of the claims is the inclusions therein, in combination as currently claimed, of the limitation that within the scanning area of the ink ejection orifices, ejection of the ink onto the respective scanning areas, each of which has a width corresponding to (a) ejection orifices and which are located at respective end portions of the row of ink ejection orifices, is performed at the printability duty of less than 100%, and ejection of the ink onto a scanning area, which has a width corresponding to (n-a) ejection orifices and is not located at the end portion, is performed at the printability duty of 100% is performed during two times of within the is neither disclosed nor taught by the cited prior art of record, alone or in combination.

Claims 8-11 are allowed because they depend directly/indirectly on claim 1.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Lam Son Nguyen', written in a cursive style.

LAM SON NGUYEN